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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,140	02/28/2002	Kaoru Hatanaka	0505-0943P	5061

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EXAMINER

ZANELLI, MICHAEL J

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 05/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,140

Applicant(s)

HATANAKA ET AL.

Examiner

Michael J. Zanelli

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This application has been examined. Claims 1-22 are pending.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. The IDS filed 2/28/02 has been considered.
4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
5. Claims 5, 6, 10, 12 and 13 are objected to because of the following informalities:
 - A. As per claims 5 and 6, at lines 8 and 9 insert --motor-- before "drive" to clearly distinguish which drive is being referred to (i.e., manual vs. motor).
 - B. All claims depending from an objected base claim are also objected to as containing the same deficiencies.
6. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - A. As per claim 1, at lines 6-7 "the actual running resistance of said *motor drive system*" lacks antecedence. Note line 5 refers to actual running resistance of the vehicle. It also appears that lines 6-7 do not accurately reflect the disclosed invention. The description at paragraph [0072] appears to suggest that the assist drive force is controlled based on the difference in running resistance between the vehicle (bicycle)

running on a flat road and the actual running resistance of the vehicle (bicycle). The actual running resistance of the motor drive system does not appear to be considered.

B. As per claim 4, at line 8 it is unclear whether applicant is claiming 2 different means of obtaining acceleration of the vehicle (i.e., calculation or detection). If both functions are to be considered as part of the same acceleration determination, it is unclear why the calculation function takes place prior to the detection function. Also “said means for generating the assist drive *power*” lacks antecedence. Note line 6 refers specifically to “force”.

C. As per claim 11, “the flat road running resistance” lacks antecedence. Note changing the claim’s dependency to claim 10 will overcome this deficiency.

D. As per claim 13, at lines 4 and 5-6, “the predetermine value” lacks clear antecedence. Note line 5 refers to “predetermined flat road running resistance” whereas base claim 12 refers to “predetermined period of time” and base claim 5 refers to “predetermined running resistance”.

E. As per claim 14, note comments above for claim 1.

F. As per claim 20, the claim recites “means for detecting ...”; however, base claim 14 already recites this element. It is unclear whether applicant is attempting to define a second detecting means. At lines 4-5 it is unclear which “actual running resistance” is being referred to since claims 14 and 20 recite means for detecting actual running resistance.

G. As per claim 21, note comments above for claim 20.

H. As per claim 22, the following terms lack antecedence: "said control means", "the first drive force" and "the second drive force". Note changing the dependency to claim 20 will overcome this deficiency.

I. All claims depending from a rejected base claim are also rejected as containing the same deficiencies.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 7-9 and 14, as best interpreted given the 112/2 deficiencies noted above, are rejected under 35 U.S.C. 102(b) as being anticipated by Ikuma et al. (5,664,636).

A. As per claims 1 and 14, Ikuma discloses a control unit for a motor-assisted vehicle as shown in Figs. 1 and 2. Fig. 2 shows means (46) for detecting actual running resistance of the vehicle as reflected by the pedal force of the operator and means (44) for controlling a motor (36) for assisting in propelling the vehicle responsive to the running resistance. A means (47) is also provided for indicating to the control means (44) an operational state of the vehicle.

B. As per claims 2-3, as above wherein start-up of the vehicle (i.e., bicycle) is determined from pedal force and speed such that the motor is controlled accordingly during start-up (col. 8, lines 50-61).

C. As per claims 7-9, as above wherein vehicle speed is detected and used in determining the amount of motor-assist to be applied such that the force required to propel the vehicle remains constant (Fig. 2; col. 4; col. 10).

9. Claim 4, as best interpreted given the 112/2 deficiencies noted above, is rejected under 35 U.S.C. 102b as being anticipated by Matsumoto et al. (5,819,867).

A. As per claim 4, Matsumoto discloses a bicycle with motor-assist (Abs.; Fig. 1). As shown in Fig. 2, control unit (17) receives input from a vehicle speed sensor (14C) and generates acceleration data therefrom or an acceleration sensor may be used (col. 2, lines 46-54). The actual running resistance is obtained relative to a pedaling sensor (col. 2, lines 5-6). The assist-motor is controlled based on the acceleration data and the running resistance as reflected by the pedaling sensor.

10. Claims 5, 6, 10-13 and 15-22 are distinguishable over the prior art. As per claims 5, 6 and 10-13, the prior art of record does not show or reasonably suggest, in combination with the other claimed subject matter, determining an inclination of the road based on predetermined running resistance of an ordinary bicycle and the actual running resistance. As per claims 15-19, the prior art of record does not show or reasonably suggest, in combination with the other claimed subject matter, controlling a regeneration instruction based on an operational state of the vehicle when the actual running resistance is a negative value. As per claims 20-22, the prior art of record does not show or reasonably suggest, in combination with the other claimed subject matter, generating a first assist force based on the actual running resistance and a second assist force based on a leg-driven power and a crank shaft rotational speed.

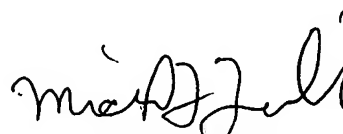
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited documents represent the general state of the art of motor-assisted vehicles.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Zanelli whose telephone number is (703) 305-9756. The examiner can normally be reached on Monday-Thursday 5:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski can be reached on (703) 308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

/mjz
May 22, 2003


MICHAEL J. ZANELLI
PRIMARY EXAMINER